TABLE 1-continued

Software Object Or Module	Off Chain	On Chain
	Valid For) Token-Expiry	
Tabulator 406	N/A	AddressFrom (Voter Address) AddressTo (Candidate Address) Value = 1

[0091] As described elsewhere, in some embodiments, voters **303**, election registrar **304**, and notary **305** can interact with blockchain access layer **101** through the use of user interface **131**. In some embodiments, this user interface takes the form of a mobile app for use with a mobile phone, tablet, or similar device. In some embodiments, the user interface can also take the form of a website or other similar service accessed from a personal computer. In some embodiments, the app or website can take multiple forms based upon who is using the app. In some embodiments, the app or website can allow a voter to register for elections, query what elections the voter signed up for, scan the ballot, submit the ballot, query submitted the submitted ballot, and query and compare the submitted ballot with the ballot that was received by mail. In some embodiments, the app or website can allow an election registrar to create an election, create a ballot, and view election results. In some embodiments, there is a login screen that is the same for both election registrars and voters.

[0092] FIG. **5***a* displays one embodiment of a log in screen for a mobile voting app or website. FIG. **5** displays log in screen **500**, which contains a field **501** for entering a digital ID and a virtual button **502** for logging into the system. In some embodiments, the digital ID is generated by the blockchain powered voting system **100** as described further below. To log in to the system the user can input their digital ID and then click or tap on virtual button **502**. In some embodiments, once the digital ID has been submitted, the app or website then requests a password from the user. The password can be hashed and then sent, along with the digital ID, to identity management services database **151** to validate the credentials. In some embodiments, the app or website may also use two factor authentication by sending a code to an email address or phone number associated with the digital ID. The voter then keys the received code into the app or website.

[0093] FIG. **5***b* displays an embodiment of the main screen of the voting app as would be seen by a voter logging into the mobile app or website. As shown in FIG. **5***b*, the main screen can contain a variety of virtual functions that can be used to access various parts of user interface **131**. For example, the user can register for elections with virtual button **511**, display the elections the voters is registered for with virtual button **512**, scan a ballot that has been cast with virtual button **513**, show the votes that have been cast with virtual button **514**, and check the status of a voters votes with virtual button **515**. In some embodiments, the scanning function can use a camera in a mobile computing device

[0094] FIG. **5***c* displays an embodiment of a screen that can be used to register for various elections. As seen in FIG. **5***c*, screen **520** displays various elections (**521***a* and **521***b*) that the voter can register for. In some embodiments, the voter can register for an election by checking the check marks in the displayed elections **521***a* and **521***b* and then click or tap virtual button **522** to register for the elections that are selected with the check marks. In some embodiments, the elections that the voter selects are recorded on the blockchain along with the voter ID. In some embodiments, the elections that are displayed are retrieved by the website or app using oracles **141** form the appropriate election database **144**. Further, when the voter registers for an election, an event is sent back to the county database that provided the oracle election info and then the database can update itself.

[0095] FIG. **5***d* shows another screen of an embodiment of the voting app or website. Screen **530** can display the elections (**531***a* and **531***b*) that a user is already registered for.

[0096] FIG. **5***e* shows another screen of an embodiment of the voting app or website. FIG. **5***e* displays screen **540**, which allows voters to scan ballots or otherwise enter ballots. In some embodiments, as discussed further below, voters can entered their completed ballots into the system by scanning their ballot. In some embodiments, the ballots can be scanned using the camera of a mobile computing device or by a scanner attached to a personal computer. The system can then identify what ballot is being submitted by looking at the scanned ballot barcode or other computer or machine readable identifier, as discussed further below. In some embodiments, users begin the scanning process by clicking or tapping on virtual button **541**. In other embodiments, users enter their votes into the system by submitting a ballot barcode or other computer or machine readable identifier to the system through the use of the numeric code associated with the barcode or other computer or machine readable identifier. The users can enter this code into field **542** and then manually enter their votes into the system using a separate screen (not shown).

[0097] FIG. **5***f* shows another screen of an embodiment of the voting app or website. In screen **550**, the voting app or website displays the various votes entered into the system by the voter though scanning their ballot.

[0098] FIG. **5***g* displays another screen of an embodiment of the voting app or website. Screen **560** displays a view of the main screen of the voting app or website as seen by the county registrar or other election management authority that creates and manages elections. In some embodiments, screen **560** has a virtual button **561** that allows the county registrar or other election management authority to enter another screen (not shown) to create an election. In some embodiments, screen **560** has a virtual button **562** that allows the county registrar or other election management authority to enter another screen (not shown) to create ballot for an election. In some embodiments, screen **560** has a virtual button **563** that allows the county registrar or other election management authority to enter another screen (not shown) that displays a list of registered voters.

[0099] In some embodiments, the various software modules and objects discussed above can be used to manage numerous functions of the blockchain powered vote by mail system. In some embodiments, the system operates in the following manner. An election official creates a template ballot. A voter applies to vote absentee, and his or her identity is verified and approved by the system. Then, a ballot is generated for the voter with an attached identifier like a QR code, barcode, or other computer or machine readable identifier that obscures the identification information of the voter. In some embodiments, the identifier can be